

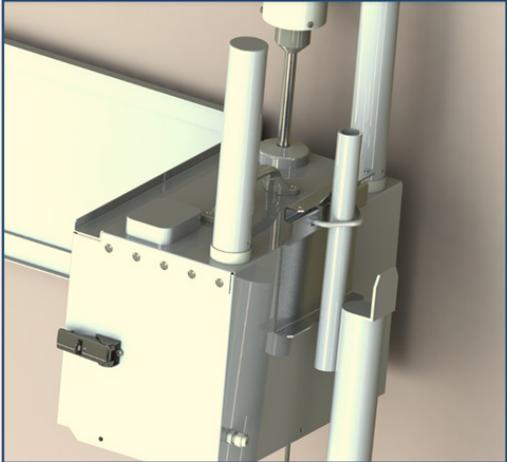
Quick Start Guide

C-12 Portable Black Carbon Monitor



*Note: This guide is designed to be used in conjunction with the **Operators Manual C-12-9805**.*

Setup Instructions:

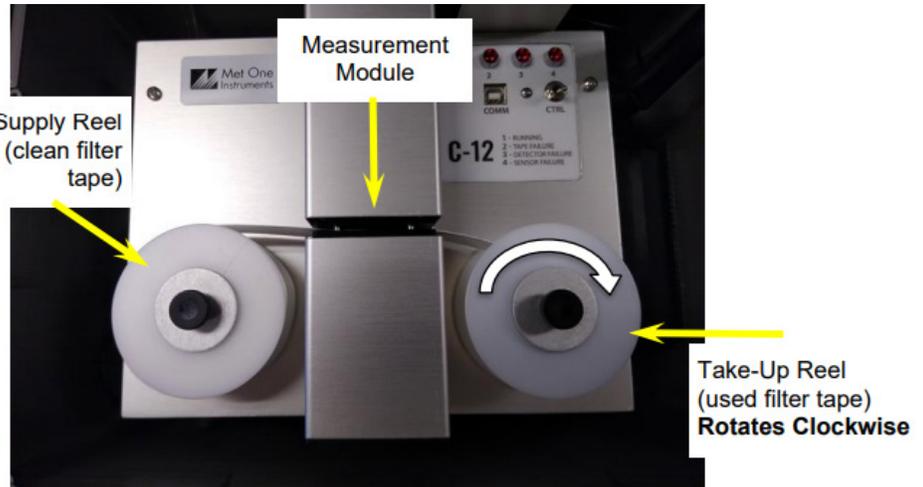
- 1:** Remove all equipment and accessories from their respective packaging.
- 2:** The instrument is supplied with one of each of the following items:
 - TSP Inlet (part number 9441)
 - Inlet Tube (part number 83799)
 - USB Cable, A-B male (part number 500784)
 - Span Check Membrane (part number 83011)
 - Filter Tape, two rolls (part number 83599)
 - Operation manual (part number C-12-9805)
- 3:** The photo on the right shows a typical mounting convention using the EX-905 Tripod. The mounting bracket at the rear of the instrument is designed to accept the U-bolt provided, or a hose clamp if desired, and also has holes to use for mounting directly to a wall.
- 4:** The following describes the standard method of setting up the C-12:
 - Insert the inlet tube: Pull out the lanyard connected fitting from the inlet mount in the top of the C-12 and insert the inlet tube.
 - Connect the TSP Inlet to the inlet tube: Slide the TSP inlet onto the top of the inlet tube. Be certain the TSP inlet is fully seated onto the inlet tube.
 - Remove the shipping covers from the antenna mounts at the top of the instrument. Thread on the Cell Antennas (finger tight, but do not overtighten). Mount the grey antenna cover tubes and press into place over the O-ring seals, line up the screw holes and install the thumbscrew to secure it in place. (Thumbscrew is attached to the C-12 enclosure via a lanyard).
- 5:** Once the instrument is mounted, connect power to the instrument. If this C-12 is to be used with a Solar Power source, connect a **regulated +12 VDC Solar Panel** to the provided input power cable, Red to +12 VDC, Black to ground. If your C-12 utilizes AC power, plug the provided power cord into an AC power source.

Installing Filter Tape:

1: Apply power to turn the instrument ON. When power is applied, the C-12 will start the automatic sampling routine. When the measurement module is OPEN, remove power.

2: Loosen and remove the two black tape reel knobs.

3: Install the new filter tape roll onto the left (supply) reel, with the tape coming off the right side of the roll. Route the tape exactly as shown in the photo. It should go through the slot in the measurement module and then to the take-up reel on the right side of the instrument.



During this step, install the retainer screw for the take-up spool, but don't tighten it fully. Fasten the loose end of the tape to the right edge of an empty spool installed on the take-up reel, with cellophane tape. After the tape is fastened to the empty spool, hold the tape so it doesn't slip and rotate the take-up spool at least 1 full turn and tighten the retainer thumb screw.

4: The tape should now be correctly installed and tensioned. If there is slack in the tape, gently rotate the supply reel counter-clockwise to tension it. The tape is fragile, so don't apply too much tension.

Setting the Internal Clock to Local Time:

We recommend using the “Remote Control” option button within COMET to execute this procedure.

1: Stop Measurement (if this is not done, the clock setting changes will not be saved)

2: SETUP MENU

3: CLOCK

4: Press ENTER (enters the edit mode)

5: Navigate to the clock and set it to local time

6: Press ENTER (exits the edit mode)

7: Press SET

8: Verify or Set the Time Zone Offset (0 offset is UTC)

9: Press ESCAPE 3 Times to return to the Operate Screen and verify the clock settings have been saved and the time is correct.

Accessing the Data:

Section 4 of the Manual provides detailed instructions on data access.

- 1: If your system does not have Cellular capability, then using COMET software is the tool of choice. Manual section 4 provides instruction for COMET use.
- 2: If this is a Cellular equipped system follow the instructions below to set up and commission your Cellular data plan, and C-12 instrument.

Establishing Cellular Service for “C-12 CELLULAR” Monitor:

- A. Contact your cellular provider and choose an M2M (Machine to Machine) data plan (minimum of 100MB/month for the C-12) which includes a “Dynamic IP” option. A Silicon Labs CP210x USB driver must be installed on the host computer before connecting it to the C-12 USB Type B port. Note: Before using the USB Type B port, ensure nothing is connected to the RS-232 port on the front panel. Driver download weblink: <https://metone.com/software/>
- B. Some cellular carriers may require an IMEI Number. The IMEI number is located on the C-12 CELLULAR Web Address Data sheet, that is provided in the large yellow envelope with the system and is unique to each unit. When the IMEI number is required the micro-SIM card must be kept with its mated unit.
- C. A SIM card is required and can be purchased from a local store or via mail. The SIM card must be a 1.8V/ 3V SIM holder for micro-SIM card (3FF). This is being used in an LTE Cat 4 Embedded Modem with 3G fallback via a SIM Card extender that accepts the micro-SIM (3FF) card. Modem make/model: MTSMC-L4G1.R1A
- D. Make sure you get the complete APN (Access Point Name) from your provider. This must be programmed into your device via the USB Type B serial interface port located on the front panel of the instrument using a terminal emulator. (e.g. COMET, HyperTerminal, Putty, etc.)
- E. Power the instrument on. Launch a terminal emulator program (e.g. COMET, HyperTerminal, Putty, etc.). By default, the USB RS-232 port communication protocol is: 115200 Baud, 8 data bits, no parity, one stop bit, and no flow control. The terminal program baud rate must match the C-12 baud setting. Once connected, the terminal connection window should now be open. Rapidly press the Enter key three times. The window should respond with an asterisk (*) indicating that the program has established communication with the C-12.
- F. We recommend programming the APN into the system prior to actually installing the SIM card into the front panel. Send the APN command followed by a space, followed by the given APN exactly as it is provided from your carrier.
Example: **APN** iot.aer.net

Establishing Cellular Service for “C-12 CELLULAR” Monitor: (continued)

G. Power the instrument off. Remove the dust cap to access the SIM card slot. Install the SIM card into the SIM card slot on the front panel of the C-12 orienting the SIM card as shown in **Fig. 1** below. Press the card all the way into the slot per **Fig. 2** (you will feel a spring engage during this step). Once the card is fully engaged it will lock into the fully engaged position in **Fig. 3** below. If the SIM card is not installed correctly, the modem will not work.



Fig. 1



Fig. 2

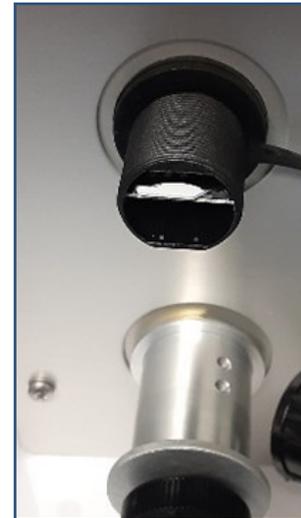


Fig. 3

H. Thread on the dust cap. If you experience any trouble setting up your device, please contact the Met One service department.



**Met One
Instruments**

POWERED BY ACOEM

1600 Washington Blvd. Grants Pass, OR 97526, USA

Phone: +1.541.471.7111

Sales: sales.moi@acoem.com **Service:** service.moi@acoem.com

metone.com

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